

Remarks

The sole issue is whether the applicants' claims are rendered obvious in light of a combination of cited references and thus are not allowable under 35 USC 103. An analysis of the cited references indicates that reconsideration is warranted.

To establish a prima facie case of obviousness, a teaching or suggestion to make the claimed combination and a reasonable expectation of success must both be found in the prior art, and not based on the applicant's disclosure. In *re* Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

No proper teaching to combine is cited.

The obviousness rejections should be reconsidered because there is no proper teaching for the combination of the cited references. "Our case law makes clear that the best defense against the subtle but powerful attraction of a hindsight based obviousness analysis is a rigorous application of the requirement for a showing of the teaching or motivation to combine the prior art references." In *re* Dembiczak, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999) (internal citations omitted). "The showing must be clear and particular. Broad conclusory statements regarding the teaching of multiple references, standing alone, are not 'evidence'." The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. In *re* Mills, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990). If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there

is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984).

An analysis of the cited references demonstrates that no teaching to combine exists. Adourian et al. in U.S. Pat. No. 6,207,031 ('031 hereafter) teach a system in which a load assembly loads samples onto a test module (See abstract). This load assembly is controlled by a controller (See '031, Abstract). The load assembly includes a robotic arm and an actuation assembly (See '031, col. 8, l. 45-46). The actuation assembly includes an array of electrically conductive fluid dispensing tips (See '031, col. 8, ls. 48, 52; col. 11, ls. 39-50). This actuation assembly dispenses microliter volumes of fluid into 100 micrometer diameter ports leading into capillary dimension channels on a microfluidic electrophoresis chip analytical device. (See '031, col. 12, ls. 3-4; col. 18, l. 66). In order to position the dispensing tips precisely at a port location the XYZ robotic arm positioner must be highly accurate, employing a DC servo motor having 2 micron accuracy. (See '031, col. 16, ls. 59-66). Compounds in separation microchannels are analyzed using an optical laser induced fluorescence system, using methods standard for capillary electrophoresis optical analysis (See '031, col. 17, ls. 13-33).

In contrast, the system detailed by Harris et al. in U.S. Pat. No. 5,096,670 ('670) is not for the automated loading and detection of separated compounds in a capillary chip device but instead is for the automated analysis of ELISA-type assays in the wells of multiwell plates. (See '670, abstract). Samples are transferred from test tubes in a test tube rack to the wells of a multiwell plate. (See '670, col. 4, ls. 38-45). The reaction mixture combined in each well has

a 150-200 microliter volume. (See '670, col. 18, ls. 34-35). Optical analysis of the wells utilizes halogen lamp illumination light focused on the fluid meniscus within the center of the well (See '670, col 18, ls. 38-68, col. 19, ls. 1-19).

A review of the teachings of the two references demonstrates that the Office has not made a sufficient showing of a teaching to combine these two references. The references teach two rather different systems, the '031 system in which migrating samples are detected using capillary electrophoresis analysis and the '670 system in which an ELISA is detected in the wells of a multiwell plate. The system of the '031 patent allows microfluidic analysis, analyzing orders of magnitude less liquid than that of the '670 system. The '031 uses confocal analysis to detect moving targets while the '670 system detects static samples in a well. The sole motivation advance in the Office action for the combination of these two very different references was "to increase throughput". This broad, conclusory statement is not bolstered by any cited teaching from either reference suggesting the means for modifying the technologies of the two references in a way that would allow the technologies to be combined. Absent some teaching to support the present combination of references, a prima facie case of obviousness has not been established.

This asserted reason to combine is not "clear and particular" as required by the law. Instead, the reason is conjecture, a "broad conclusory" statement that case law holds is inadequate to support such a combination. Further, it is likely that the proposed modification of the conveyor belts of the '670 reference to the apparatus of the '031 microfluidic chip loader would render this device unsatisfactory for its intended purpose. The intended purpose of the automated

system is to automatically load channels in a capillary electrophoresis system. This requires precision positioning of the loader with respect to the openings of the capillary channels. The '670 reference indicates that this requires precision orientation of the loader with respect to the openings. However the belt driven conveyors of the '670 would most probably frustrate this purpose by failing to provide the needed accuracy in positioning the electrophoresis chip. Again, this indicates the present combination should be reconsidered and withdrawn. This reason independently warrants reconsideration of this rejection.

The asserted references do not render obvious the applicant's claims.

Even if the references are combined, this combination does not render obvious the applicant's claims. An obviousness determination requires determining the scope and content of the prior art and ascertaining the differences between the cited art and the claims at issue. See *Graham v. John Deere Co.*, 148 USPQ 459 (S.C. 1966). When applying 35 USC Section 103 in a finding of obviousness, the tenants of patent law require that the claimed invention be considered as a whole, that the cited references must suggest the desirability and thus the obviousness of making the claimed combination, that the cited references must be viewed without the benefit of impermissible hindsight afforded by the claimed invention, and that the cited reference provide a reasonable expectation of success in practicing the claimed technology. See *Hodosh v. Block Drug Co., Inc.*, 229 USPQ 182, 187 (Fed. Cir. 1986).

The present claim one includes the element of a "gantry carrying a multifunctional device". The applicants'

Instant
Claims do
not require
the first
frame to
provide accuracy
in
positioning
the
electrophoresis
chip
Graham
the system
of
Harris
Components
to
ensure
the
sticks
are
properly
positioned
for engagement
w/
multipurpose
2574
67.5
line
40-59

specification states the "multifunctional device contains a plurality of ganged pipettors, an individual pipettor and an vacuuming line" (p. 4). However in the present Office action neither reference is identified as containing a multifunctional device mounted on a gantry. The multifunctional device, as defined by the applicants, is found in neither of the cited references. Without a teaching in the combined references of one of the claimed elements, a case of obviousness cannot be established. This is a second independent basis for reconsideration and withdrawal of the present rejection.

Conclusion

The applicants respectfully request reconsideration in light of the submitted remarks and amendments. A notice of allowance is earnestly solicited. If any matter relating to this case needs to be discussed please call our office at (408) 297-9733 between 9 a.m. and 5 p.m. Pacific time.

Respectfully submitted,

CERTIFICATE OF MAILING

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, Mail Stop AF, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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